Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

METEOROLOGICAL OBSERVATIONS *made at* LONDONDERRY *in the Year* 1800. *By* WILLIAM PATTERSON, *M. D. and M. R. I. A.*

Read, May 4th, 1801.

Tabular Summary of Inſtruments.

Months.	Barometer.		Thermom.		De Luc's Hygrom.		Rain Gauge.
	Higt.	Lowt.	Higt.	Lowt	Higt.	Lowt.	Inch. Parts.
January - -	29 51	28 85	44½	29	48⅓	47	3. 809596
February -	30 26	29.35	40	34	48	45	0 630556
March - -	30.26	29.34	49	37	45⅔	4[illegible]	0. 630556
April - -	29.78	29 31	51	47	44½	44	4. 019794
May - -	30.26	30.1	57	51	41⅓	.39	1.8911668
June - -	30.33	29 73	67	53	40⅗	36⅗	1. 812848
July - -	30 49	29.80	81	61	40[illegible]	35¼	0. 827595
Auguſt - -	30.40	29 94	77	57	40½	3 ⅓	0. 945834
September -	—	—	—	—	—	—	3. 15078
October -	30.24	29 50	54	48	50⅓	48⅔	4. 965619
November -	30.36	28 92	46	36	50¾	49½	3. 940975
December -	30.18	29 13	47	28	52⅙	49½	2. 601043
	Mean		Mean		Mean		Total
Yearly -	29 82.+		49°.75		42.°19		29.2263628

Note.—The Obſerver regrets that ſo many vacancies appear in the columns of September, which were cauſed by his abſence from home, on profeſſional duties, ſome miles to the north-weſt of Derry, without the poſſibility of having inſtruments for obſervation; but where, nevertheleſs, general notices were made, whilſt the rain-gauge was meaſured by a perſon accuſtomed to attend it.

Tabular View of the Direction of the Winds.

Months.	N.	S.	E.	W.	N. W.	N.E.	S.W.	S. E.
January - -	—	4	2	12	2	2	1	14
February -	—	3	3	5	—	—	3	19
March - -	3	3	3	5	1	—	3	17
April - -	3	2	—	15	3	2	2	1
May - -	1	2	4	6	7	1	3	6
June - -	9	2	—	11	14	—	3	—
July - -	2	2	—	23	1	—	4	
Auguſt - -	7	5	2	17	—		2	3
September -	5	3	2	7	4	6	6	3
October - -	3	—	1	11	17	4	3	—
November -	4	—	—	12	23	1	—	2
December - -	4	1	3	12	7	1	6	10
Total -	41	27	21	136	79	27	36	75

A Tabular Statement of the various Phenomena.

Months.		Fair.	Showery.	Wet.	Hail.	Snow.	Froſt.	Auror. Boreal.	Thunder and Lightning
January	- -	12	16	3	1	7	9	—	—
February	-	18	10	—	2	3	10	—	—
March	- -	18	13	—	—	3	7	—	—
April	- -	4	21	5	2	—	—	—	1
May	- -	9	20	2	2	—	—	—	3
June	- -	8	20	2	1	—	—	—	1
July	- -	17	14	—	—	—	—	—	1
Auguſt	- -	15	16	—	—	—	—	—	—
September	-	10	16	4	3	—	—	1	4
October	- -	6	22	3	[illegible]	—	—	—	—
November	-	4	23	3	2	4	5	—	—
December	-	15	16	—	2	3	18	1	—
Total	-	136	207	22	17	20	49	2	10

General

General Remarks.

In *January* there was much blowing weather, ſometimes from the ſouth, but chiefly from the ſouth-eaſt; often accompanied with ſnow; of which deſcription have been our ſevereſt winter ſtorms for ſome years paſt. In this month alſo occurred ſharp congelation, and moſtly with a low barometer. *February* was remarkably dry; the winds were in general moderate; and, although there was frequent congelation, the cold was ſeldom ſevere. Sometimes, indeed, the temperature of the air was almoſt genially warm, even after ſun-ſet, whilſt the preceding day had been perhaps rather ſharp; which was often the caſe during the eaſt and ſouth-eaſt breezes of the whole winter. In *March*, though there were ſome days and nights of congelation, yet only two or three of them were in any degree ſharp; and one only ſo hard as to prevent harrowing in the morning. This, like the preceding month, was remarkably dry; but there were frequent miſts, and ſome thick fogs, which condenſed into drops like rain. There were frequent calms; the winds were generally moderate, ſometimes in different currents, the upper current being ſouth-weſt, whilſt the lower was ſouth-eaſt; which tides of the atmoſphere were frequently noticed during this and the two preceding months. *April* was a wet month, with much blowing, ſqually weather from the ſouth and weſt points, whilſt the temperature of the air was generally moderate. The day, (22d,) on which the thunder and lightning occurred, a very heavy hail ſhower fell. The temperature of the air in *May* was generally cold, with a good deal of blowing weather and frequent ſhowers; to the frequency of which however the quantity of rain that fell did not bear any proportion. The weather of *June* was in general cold; there were only two or three days that could be called genially warm; and during the night of the tenth a degree of refrigeration took place which ſtiffened the cloth on the bleach-fields. The coolneſs of this month may be imputed partly to the prevalence of north-weſt winds, and partly to the ſky being often covered with clouds, which damped the energy of the ſolar rays. The winds in *July* were generally moderate, and the air dry, commonly hot, ſometimes ſultry. In *Auguſt*, though ſeveral ſhowery days are noted, yet the rain was upon the whole very inconſiderable. From the 15th of July to the 12th of this month the weather with little interruption was very hot; and the temperature of the air, in the reſt of theſe two months, was in its general character rather warm, with winds for the moſt part very moderate in their force. *September* was in general a boiſterous month, having ſeveral ſqually gales, the greateſt from the north-weſt, always accompanied with rain, and ſometimes with hail and thunder and lightning. *October*, like the moſt of September, was a bluſtry, wet month, but the ſevereſt weather was at night. *November* commenced with a ſtorm from north-weſt, which direction of wind prevailed with ſome violence, accompanied by heavy ſhowers, during the whole month; but the rain occurred principally in the night, as it had done ſince the middle of September. There was alſo ſome hazy weather; and ſome thick fogs took place, which condenſed into drops reſembling rain. On the 25th, after a ſhower of round ſnow, about eight o'olock at night, a very ſudden and ſharp frigorific proceſs began, which, before the return of day, was ſucceeded by rain. In the beginning and latter part of *December* ſeveral congelations took place, ſome of them keen, but generally moderate; there was a good deal of hazy and foggy weather; and in the middle of the month the air was warm and mellow, producing in the graſs-fields a remarkable verdure. The force of the winds was moſtly moderate, ſometimes eaſy, and when freſh breezes occurred, they were chiefly in ſhort and ſudden guſts.

The air was remarkably dry during the firſt fourteen days of June, by which the crops ſeemed likely to ſuffer; but fortunately ſome refreſhing rain fell the 15th and 16th, which very much recruited the thirſty vegetation. It was apprehended, that a ſharp north-weſt wind, which blew on the 20th, would have ſpoiled the potatoes; but it was afterwards found that they were very little hurt, as the ſtalks were not long enough to ſuffer; and whatever injury the leaves ſuſtained, was repaired by the ſubſequent rain; therefore no worſe conſequence reſulted, than that of retarding their growth a little. In July it was alſo feared that the potatoe crops would not merely ſuffer ſome obſtruction, but that they would in reality be blighted, as on the 4th day of that month the leaves were much blackened by a ſcorching ſouth-weſt wind. The ſtalks, however, eſcaped; and the fine vegetative weather which ſucceeded reſtored verdure even to the leaves. By the drought of Auguſt, it is true, the growth of the potatoes ſeemed to be repreſſed; yet the heavy dews, and a few fogs, appeared to ſupply in ſome meaſure the place of rain: but the flax ſuffered materially; the ſcarcity of water being ſo great as not to leave ſufficient for the operation of ſteeping; ſo that the linen yarn, which was ſpun of this year's flax, has been peculiarly difficult to bleach. The tempeſtuous drift of September, being attended with many fair intervals in the day, was not materially prejudicial to the grain; and the late potatoe crops, which were impeded in their growth by the drought of July and Auguſt, acquired by the rain of this month unexpected vegetation. As in October there were likewiſe many dry intervals in the day with much arefaction in the air, the grain was very little the worſe; and the whole of it, even in the mountainous tracts, was got in on the 20th of the month.

With regard to quantity, oats and barley, the chief products of this part of the kingdom, were not defective, except in a very ſmall comparative proportion, and the ſhell contained a full and ſolid kernel. The potatoes, indeed, were deficient in quantity; but the quality of them was generally good. Upon the whole, as to agricultural produce, it may be obſerved, that had not the failure of the preceding year occaſioned a current ſcarcity and a conſumption of ſtores, the year 1800, in this diſtrict, would have rated in its ſupply equal to common favourable years.

About 150 years ago, Dr. Gerard Boate obſerved, that the weather of ſpring in Ireland is generally fair, with clear ſun-ſhine from morning to night, for the ſpace of five or ſix weeks, with little or no interruption, and that this ſet of fair weather begins ſome time in the month of March. On the other hand, he remarks, that our ſummers are generally wet; ſo much ſo that it is a rare thing to ſee a whole week paſs without rain; and many ſummers the weather is never dry two or three days together. With reſpect to the influence of this wetneſs of ſummer on the products of the ſoil, he further remarks, that not only the corn and graſs, but the fruits of trees, ſuffer both in ripening and ſaving.—Yet, he maintains, that the vigilant and careful, who ſeize every opportunity, ‘ do commonly in the end get in their increaſe well enough, notwithſtanding all theſe great hinderances; ſo that there be as few years of dearth in Ireland, as in any other country of Chriſtendom; and moſt years there is not only corn enough got for the ſuſtenance of the inhabitants, but a great deal over and above, for the ſending out of great quantities of grains into other countries.'

On this ſtatement I would remark, that the uninterrupted courſe of dry weather, above repreſented as appertaining to our ſpring, neither correſponds with what I have obſerved, nor, as far as I know, with the obſervations of any other writer. The general character of our ſpring weather ſeems to be cold, with frequent dry days, and a conſiderable arefactive power in the air, but with no long abſence of rain, it being rather ſhowery, and April ſo to a proverb. Whilſt Dr. Boate remarks on the wetneſs of our ſummers in general, he admits, 'that ſummers have been, which were *full* of very dry, and fair, and pleaſant weather.' In this repreſentation of certain ſummers, I agree with Dr. Boate; as we often have one remarkably dry ſummer ſeaſon, and ſometimes two or three ſucceſſively, between a greater number of wet ones. He obſerves truly, however, that 'over dry ſummers do in this iſland hardly come once in an age; and it is a common ſaying in Ireland, that the very dryeſt ſummers there never hurt the land.'

Again, Dr. Boate ſays, it is obſerved ‘ that ordinarily it raineth in Ireland much more by day than by night; and that, many times, when it doth rain two or three days together, the nights between are very clear and fair.’ This kind of weather, he tells us, occurs not only in autumn, but in other bad ſeaſons, when the ſky is overcaſt with clouds and miſts the whole day. As to the firſt branch of the obſervation, my experience leads me to an oppoſite concluſion, having repeatedly noticed, (for example, in the autumn and winter of this year,) that the nights, both in rain and wind, far exceeded the days. As to the ſecond branch, I am not yet prepared to determine how nearly it correſponds with the nature of the weather of late years; but, to the beſt of my recollection, I think that when we have two or three ſucceſſive rainy days, the intermediate nights are fair, or have many fair intervals.

It has been alleged, that, in the inſtance of temperature, the winters of Ireland have been, for ſeveral years paſt, more mild and warm than they were in preceding times, and, conſequently, that in this material circumſtance the climate is altered. But Dr. Boate, bearing teſtimony of the moderation of our winter weather, writes thus: ‘ It is very ſeldom violently cold there, and freezeth but little: There are commonly three or four froſts in one winter, but they are very ſhort, ſeldom laſting longer than three or four days together, and withal, at their very worſt, nothing near ſo violent as in moſt other countries; ſo that ſome, all winter long, hardly come near a fire in a day; and that not only in the ordinary cold weather, but even whilſt it is a freezing. Yea many times the cold is ſo ſlack, even in the midſt of the winter-months, that by walking only, or doing ſome other moderate exerciſe, you ſhall find yourſelf as warm, and the air as ſweet and pleaſant, as it were in the month of May.'

'THERE hath been ſome winters,' continues he, 'wherein it hath frozen ten or twelve days together, ſo as the Liffie, and other the like rivers, were quite frozen, and might be gone upon by men and beaſts: but thoſe are altogether extraordinary, and do come very ſeldom; hardly once in the ſpace of ten or twelve years. But how mild they ordinarily be, and how little ſubject to exceſſive cold, may appear hereby, that all kind of beaſts and cattle, as cows, horſes, and ſheep, do there all winter long remain abroad, and do feed in the fields, where they are left in the night-time as well as in the day; and that many herbs, which in England and Netherland do dye every winter, here continue all the year long.' Nor was this temperate ſtate of the air, in Boate's time, confined to one ſeaſon of the year, and to the ſouthern provinces; but likewiſe prevailed in every ſeaſon, and in the northern and weſtern diviſions, in ſo remarkable a degree, that, in another paſſage, he aſſures us, ‘ the cold was much leſs in the moſt northern part, than any other land lying in the ſame height, or latitude, yea than many countries of a much more ſoutherly climate.’ This equality of temperature ſtill continues, as has been proved by late obſervations; from which it appears, that no difference of conſequence takes place throughout the whole iſland; the total variation of heat being only 3$\frac{2}{10}$ degrees, which is at the rate of no more than about one degree of temperature for each degree of latitude; a concluſion drawn from experiments on the water of deep wells, for determining the heat of the earth, with which, ſucceeding obſervations ſhew, that the annual medium heat of the atmoſphere nearly correſponds.

One obſervation more from Dr. Boate, I cannot refrain citing, becauſe it relates to the ſalubrity of the air of this iſland, which, if it were as exempt from wet as it is from cold, he proteſts, ‘ would be one of the ſweeteſt and pleaſanteſt in the whole world, and very few countries could be named, that might be compared with Ireland for agreeable temperateneſs.’ To demonſtrate the ſalubrity of the climate, and to ſhew that the healthineſs of the inhabitants is not owing to ‘ any peculiar quality of their bodies, but proceedeth from ſome hidden property of the land and the air itſelf;’ he adduces two facts: ‘ Firſt, in that ſtrangers coming to Ireland do partake of the ſame exemption; and, as long as they continue there, are as free of thoſe evils, from which that climate is exempt, as the Iriſh themſelves.'—' Secondly, in that the natives, born and brought up in Ireland, coming into other countries, are found to be ſubject unto the ſame diſeaſes as other people.' He adds, that even when military bodies, compoſed of ſtrangers, and liable to the ſevere diſeaſes generally incident to an army, were ſeized with ſuch diſeaſes, their origin was traced to errors in the uſe of the non-naturals, not to any peculiar fault in the air of the country.—In what meaſure this laſt obſervation is corroborated by ſucceeding facts, I am not qualified to decide, our data being yet inſufficient for the purpoſe of concluſive calculation; but, if we were allowed to reaſon on the point, we would ſay, That ſince the air was free from the ſpecies of vitiation which, in moſt other countries, occaſions that trying ſickneſs, called *Seaſoning*, at a period ſo far back as one hundred and fifty years ago, when the iſland was in a ſtate vaſtly waſte and uncultivated, compared with its preſent ſituation, may we not now aſcribe to it at leaſt an equally benign diſpoſition, or rather a ſuperior one, ariſing from the improved and ſpreading culture of the land?

IT might be worth while to enquire, to what cauſe or cauſes the freſh ſtate of our hibernal vegetation may moſt rationally be aſcribed. Is it excluſively owing to the effect of warmth and moiſture, or to the nature of the ſoil, or to the combination of theſe qualities? Or has hydrogenous gas any ſhare in it? Warmth, acting in concurrence with moiſture, has unqueſtionably vital influence on the vegetable ſyſtem; but, even in our open winters, cold days frequently occur, the ſolar heat is naturally weak, and moon-light does not appear to poſſeſs any influence deſerving notice in this caſe. And as to the part which the ſoil has in the proceſs, it may be obſerved, that the verdure is not confined to warm and rich grounds, but extends proportionably to every ſoil where herbage exiſts. But it may be further remarked, that in ſome of the colder weather of our verdant winters, the nights, particularly in their beginning, are often ſenſibly warmer than the days. Now, to touch on the borders of hypotheſis, we ſhall aſk, Is the ſuperior temperature of thoſe nights owing to the eſcape of caloric, during the tranſition of water from its mixture with air into a more aggregate ſtate? Taking this queſtion in the affirmative, is it not conceivable that, in the paſſage, ſome of the water might be decompoſed, and its hydrogene, coaleſcing with the free caloric, become hydrogenous gas? However this may be, one thing appears certain, that the atmoſphere is ſometimes ſo highly charged with inflammable gas, that the electric fluid, in regaining its equilibrium, ſets on fire the gas, and occaſions igneous meteors, even very near the ſurface of the earth. (See Note 1,) THE proportion in which inflammable gas contributes to vegetable greenneſs ſeems to be aſcertained by ſome late obſervations. M. Ingenhouſz has remarked, that when this gas is mingled with the air in which vegetables grow, the verdure of the latter acquires a much deeper ſhade. M. Humboldt found that divers plants of the claſs *cryptogamia* puſh out green ſtalks, though placed in mineral pits where light has no acceſs to them; and that ſeveral of the *gramina* have green leaves when growing in the galleries of certain mines, at the depth of 360 feet beneath the ſurface of the earth. On examining the air in theſe ſituations, he found that it was mingled with hydrogenous gas. Theſe curious phenomena, which M. Humboldt employs in a ſatisfactory manner to explain the *etiolation* (blanching) of plants, tend equally to render it probable that this gas has at leaſt ſome ſhare in giving the ſoft-toned green, the delightful *colour of nature*, to the vegetable creation. As rain-water, however, is found to contain, in a ſtate of ſolution (not in combination like ſnow) a portion of oxygene, and as the contact of oxygene expedites the germination of ſeeds, a ſhare in producing the verdure of our winters may of courſe devolve on atmoſpherical moiſture and warmth. But I queſtion whether to theſe cauſes can be legitimately aſcribed the whole of the verdure, as after the diſſolution of deep ſnow, (which is more oxygenated than rain-water, and which, being a bad conductor of caloric, confines the atmoſpherical heat,) the greenneſs of plants is much paler, and their growth far leſs advanced, than in an open winter. (See Note 2.)

In accounting for the temperature of our winter air, perhaps we ſhould attribute ſomething to the geographical poſition of Ireland with reſpect to the Atlantic, and the comparative ratio of its altitude. From the Atlantic we have the warming effects of the gulf-ſtream more powerfully than they can have it in the northern iſles of Britain, as it muſt ſuffer a decrement of heat before it can arrive at their coaſts, which it reaches with a very weak velocity about Chriſtmas. The lowneſs of our lands, alſo, compared with other countries, even in Europe, is very ſtriking. The higheſt part of the *general* ſurface of Ireland, which is only 270 feet above the level of the ſea, is about the center of the kingdom; and our loftieſt mountain, M'Gillicuddy's Reeks, in the county of Kerry, riſes but 3405 feet. Whereas, taking other countries in gradation, Paris is 365 feet over the ſea; Geneva, 1268 feet above the Mediterranean; the Valley of Chamouni, 3367 feet over ditto; Snowdon, in Wales, 3555 feet over the ſea; Benevis, in Scotland, (the higheſt hill in Britain) 4370 feet; the inn on St. Gothard, in the Alps, 8819 feet nearly; Peak of Teneriffe, 12185 feet; Mount Blanc, (the higheſt land in the old world) 15662 feet; and that gigantic mountain-maſs, Chiromboraco, in Peru, 20595 feet above the ſea. (See Note 3.)

From the above comparative ſketch of the climate of Ireland, in the middle of the 17th century, with its conſtitution for a few years paſt, it will appear, that advantages might be derived to agricultural ſcience from a yet more extended compariſon. But this is not all; another very important benefit might be reaped from ſuch a compariſon, in a medical point of view. Although I do not believe that, in theſe latitudes, health, or diſeaſe, 'follow ſtill the motions of the moon,' yet I am firmly perſuaded, that theſe circumſtances of the human body are materially influenced by the conditions of the element in which we dwell, and feed, and have our being. Indolence, ignorance, and other cauſes have led men to neglect, or deſpiſe inveſtigations concerning the application of meteorology to medicine; and, perhaps, no cauſe has contributed to this effect more than the want of comparative eſtimates. During many ages, it was the faſhion to regard the obſervations which had been made on thoſe ſubjects in Greece and Rome, as applicable to the air and inhabitants of countries in ſeveral reſpects differing from theſe and from one another; and meeting with diſappointments in transferring the rules of what was called the ſtandard ſituation to other places, the inquirers have given up the purſuit as vain and uſeleſs. But had a ſufficiently extended compariſon been accurately made between the air and inhabitants of the reſpective countries, each inquirer would probably have learned an inſtructive leſſon concerning the climate and diſeaſes of his own diſtrict. And theſe kinds of obſervations, multiplied in different regions, would in proceſs of time accumulate ſuch a maſs of facts as would furniſh materials for determining a very intereſting queſtion: *Is meteorology applicable to the ſcience and art of medicine?*

That the phenomena of the atmoſphere, like all the other works of nature, notwithſtanding the viciſſitudes and apparent irregularities of the weather, are governed by certain laws, cannot be for a moment doubted; and, that they all have their phyſical cauſes, we are not authoriſed to deny, merely becauſe we cannot diſcover them. Thoſe phenomena, unqueſtionably, ariſe from ſome providential ordinances of which we are at preſent ignorant, and which nature follows as conſtantly as ſhe does thoſe with which we are acquainted. If this was not the caſe, we muſt roundly aſſert, that there are actions which have no principle, and effects which have no cauſe; aſſertions totally repugnant to all philoſophy. Why, then, may we not, by patient inveſtigation, diſcover a clew to detect the meanders of thoſe phenomena? Why may we not be capable of tracing their laws? Why may we not ultimately be able to form theſe laws into a code, and reduce meteorology, already putting on an improved aſpect, into a ſtill more ſcientific ſyſtem, applicable, like chemiſtry and other ſciences, to both the ornamental and uſeful arts?

How many and great diſcoveries have been made in the walks and operations of nature, which previouſly were not even dreamed of, or, if they were conceived, were deemed viſionary and impoſſible! Should we, therefore, be diſcouraged in one branch of natural knowledge, not perhaps ſo intricate and forbidding as ſome which have been ſatisfactorily explored? But what method might be taken to cultivate this branch in Ireland? Might it not come within the province of the Dublin Society to commence and carry on an undertaking of this deſcription, by attaching to their inſtitution a profeſſorſhip of meteorology, on the ſame wiſe and enlarged principle that they have eſtabliſhed one of botany and another of chemiſtry and mineralogy. And is it not reaſonable to preſume, that the legiſlature would make proviſion for the ſmall expenſe it would require, when the advantages to be derived from it might be ſo extenſive and important?

'The neceſſity of ſome public eſtabliſhment for meteorological inquiries,' was ſeveral years ago pronounced by an authority, which no friend to this country and to ſcience will think of diſputing. In a general view, ſuch a foundation evidently might be rendered productive of much additional knowledge; and in a particular inſtance, namely, the medical department, many new and intereſting materials might be furniſhed, paths yet untrodden might be explored, and great advances might be made, in a ſhort time, toward deciding the influential queſtion, before noted, concerning the application of meteorology to the healing art. In fine, for an inſtitution of this kind, it is judiciouſly remarked, (Tranſ. R. I. Academy, Vol. II.) that Ireland is peculiarly well circumſtanced. 'The local diſpoſition of our iſland, conſiderably advanced in the weſtern ocean beyond the other ſhores of Europe, and removed from the immediate influence of any great tract of mountainous country, renders it peculiarly fitted for a *ſtandard* ſituation, to which the obſervations of other countries may be conveniently referred.' Seeing, then, that Ireland is thus adapted by nature for the propoſed reſearch, at once curious and uſeful, it would be a pity, ſurely, to neglect cultivating its advantages with ſuitable zeal and aſſiduity. The Academy, indeed, rightly impreſſed with the truth of this opinion, early made it an object of their attention; but it appears, that the chief meaſure which they took on the occaſion, (and which ſeems to have been the utmoſt that could have been expected from them) viz. the diſtribution of inſtruments, has been followed with ſuch inadequate ſucceſs, as to leave room for wiſhing that ſome effectual plan might be adopted. It ſeems neceſſary that there ſhould be a central ſource, which, like the heart in the human body, might diſpenſe its vital fluid in animating currents throughout the nation.

(NOTE 1.)

We may here note, that phoſphoriſed hydrogene gas (a diſcovery aſcribed to C. Gengembre) poſſeſſes the ſingular property of inflaming by the contact of air alone, without requiring its temperature to be raiſed, or an ignited body to be preſented to it. But whether this ſpecies of gas is capable of communicating the green colour to vegetables, and whether it is generated in the atmoſphere, or earth, are queſtions to which I am not here prepared to give anſwers of a ſatisfactory nature.

(NOTE 2.)

The ancient Greeks aſcribed the green colour of vegetables to the influence of ſolar light; but they explained this opinion by a theory, the ſubſtance of which is as follows: 'There are but three ſimple colours, white, black, and yellow. Theſe depend on the elements: white, on the air, water, and earth; yellow, on fire, or the inflammable principle; black, on a want of light. The mixture of the elements may occaſion different colours. Thus from the conjunction of water with the rays of the ſun, vegetables acquire a green: when earth and water co-operate without the influence of light, they aſſume only white, whilſt thoſe parts of the plant which riſe out of the earth are green.' Hence it appears, that the Greeks had, on this ſubject, ideas ſimilar to thoſe which are ſupported by Meſſrs. Ingenhouſz, Sennebier, Humboldt, &c. Here then we have cauſe to aſk, in the words of the eloquent Preacher, pronounced near 2800 years ago: 'Is there *any* thing whereof it may be ſaid, See, *this* is *new*?'

(NOTE 3.)

(NOTE 3.)

The higheſt point of the *general* ſurface of Ireland is taken from obſervations and ſurveys made to find the elevation of the ſummit level preparatory to cutting the Dublin canals. The altitude of the Kerry mountain was accurately meaſured by Mr. Kirwan. And the foreign altitudes are given on the authority of La Lande, Sir G. Schuckburgh, General Roy, Chevalier Verdun, Sauſſure, and Bouguer.